

REMARKS

This application has been reviewed in light of the Office Action dated August 25, 2004. In view of the foregoing amendments and the following remarks, favorable reconsideration and withdrawal of the objections and rejections set forth in the Office Action are respectfully requested.

Claims 1-21, 27-31, 38 and 39 are pending. Claims 22-26 and 32-37 have been canceled herein without prejudice or disclaimer of subject matter. Claims 1, 4, 9, 11-14, 16, 18, 20, 27-31 and 38 have been amended. Claim 39 has been added. Support for the claim changes and the added claim can be found in the original disclosure, and therefore no new matter has been added. Claims 1, 11, 13, 14, 27, 29-31, 38 and 39 are in independent form.

Claims 22-26, 32 and 33 were objected to as being in improper dependent form. Since these claims have been canceled herein, these objections are moot.

Claims 24, 25, 32 and 33 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Since these claims have been canceled herein, this rejection is moot.

Claims 1, 3-14, 16-21 and 27-31 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,408,272 (*White et al.*) in view of U.S. Patent No. 6,374,226 (*Hunt et al.*). Claims 2 and 15 were rejected under 35 U.S.C. §103(a) as being obvious over *White et al.* in view of *Hunt et al.*, and further in view of U.S. Patent No. 6,456,974 (*Baker et al.*). Claims 34-37 were rejected under 35 U.S.C. §103(a) as being obvious over *White et al.* in view of U.S. Patent No. 6,078,886 (*Dragosh et al.*). Claim 38 was rejected under 35 U.S.C. §103(a) as being obvious over *White et al.* in view of *Dragosh et al.*, and further in view of *Hunt et al.* Since Claims 34-37 have been canceled herein, the rejection of those claims is moot. In

response to the § 103 rejections of the other claims, Applicant respectfully submits the following remarks.

One feature of the invention as set forth in independent Claim 1 is that a grammar store comprises at least first and second grammars having grammar rules and at least one interface grammar defining an interface of grammar rules and not including the content of the grammar rules, the first grammar being arranged to include the interface of grammar rules defined by the interface grammar and the second grammar being arranged to specify grammar rules according to the interface defined by the interface grammar, and that a speech recognition grammar instructions providing means is arranged to provide instructions for causing the second grammar to be combined with the first grammar based on the interface grammar. Independent Claims 11, 13, 14, 27, 29-31, 38 and 39 each recite a similar or identical feature.

By virtue of the above feature, an extended grammar can be dynamically produced by combining a first grammar and a second grammar via an interface grammar. This can be explained in greater detail as follows.

A first grammar includes at least one interface grammar. The interface grammar corresponds to a definition of an “interface,” and the contents thereof are not defined concretely. The contents of a second grammar are concretely specified in accordance with the interface of the interface grammar. At the time when instructions are provided, the first and second grammars are combined with each other based on the interface of the interface grammar. A creator of the first grammar is only required to recognize the interface written in the interface grammar but is not required to know the contents of the second grammar in advance. Consequently, the second grammar can be arranged to specify any grammar rules so long as such arrangement is made in

accordance with the interface of the interface grammar. This means that the second grammar, which is to be combined with the first grammar, is not determined in advance.

An explanation of an example of such a grammar linkage is given at pages 39-42 of the specification.

The structure having such characteristics as described above can be used to advantage when operating more than two devices by dynamically combining them with each other, as explained in the embodiments described in the subject application.

For example, in order to make it possible to realize a control command provided with a speech-recognition function when performing direct-printing from a camera to a printer, a speech recognition grammar geared to such direct-printing becomes necessary.

According to the invention as set forth in Claim 1, however, there would be no need, in performing direct-printing, to prepare in advance a grammar that is adapted to a complex mechanism. A grammar for operating a camera and a grammar for operating a printer may be designed separately from each other, but in such a manner that they are designed around an interface grammar, i.e., an “interface” based on which one grammar would be combined with the other grammar.

Such a structure makes it possible to dynamically produce a speech-recognition grammar geared to direct-printing by combining a grammar for a camera and a grammar for a printer at the time when the user decides to perform direct-printing from a camera.

If the direct-printing from the camera is performed by using a copy machine rather than a printer, a grammar provided with a linkage function is dynamically produced as a result of dynamically combining the grammar for the camera with a grammar for the copy machine.

Of course, the above example is not to be taken as limiting the scope of the independent claims herein.

It is noted that the expression “interface” used in the claims may be broadly construed as the term commonly used in the field of object-oriented technology. See, e.g., <http://java.sun.com/docs/books/tutorial/java/concepts/>.

White et al. relates to a distributed voice user interface, in which a local device may communicate with a remote system to obtain processing of input speech in cases when the local device is not able to respond to the input speech by itself. Applicant understands that *White et al.* is cited in the Office Action as generally teaching the structure of a distributed speech recognition system. Applicant submits that nothing in *White et al.* would teach or suggest at least that a grammar store comprises at least first and second grammars having grammar rules and at least one interface grammar defining an interface of grammar rules and not including the content of the grammar rules, the first grammar being arranged to include the interface of grammar rules defined by the interface grammar and the second grammar being arranged to specify grammar rules according to the interface defined by the interface grammar, and that a speech recognition grammar instructions providing means is arranged to provide instructions for causing the second grammar to be combined with the first grammar based on the interface grammar.

Hunt et al. relates to a system and method for interfacing speech recognition grammars to individual components of a computer program. Such a system includes a number of speech controller modules each supporting a speech recognition grammar having at least one rule. A rule may include reference to another rule in a different speech recognition grammar, in which case a link to the other rule is formed. In this way, more complex grammars can be built.

Applicants understand that the Office Action considers *Hunt et al.* to teach an idea which is the basis of SRGS, the speech-recognition grammar specification of the W3C (Mr. Hunt is one of the editors of SRGS). The Office Action alleges that the mechanism of producing an extended grammar by linking the first and second grammars as described in the subject application is taught by *Hunt et al.*'s Fig. 3 and the corresponding explanatory portion (cols. 5-6).

According to *Hunt et al.*, however, the linkage of a first grammar and a second grammar is performed by including in the first grammar an explicit reference from the first grammar to the second grammar. That is, the first grammar can be created only by taking into account the second grammar. Such a structure does not enable, for example, a camera developer to create a camera grammar (first grammar) and a printer developer to create a printer grammar (second grammar) independently of each other.

In contrast, the invention as set forth in Claim 1 permits a dynamic combination of the first grammar and the second grammar, by defining merely the format for combining the first grammar and the second grammar, as an "interface grammar." As a result, the first grammar and the second grammar may be created separately from each other; each grammar may be created without taking into consideration the other grammar.

To the contrary, nothing in *Hunt et al.* is understood to suggest Applicant's conception as expressed by "interface grammar" in the claimed invention. Applicant submits that *Hunt et al.* does not teach or suggest at least that a grammar store comprises at least first and second grammars having grammar rules and at least one interface grammar defining an interface of grammar rules and not including the content of the grammar rules, the first grammar being arranged to include the interface of grammar rules defined by the interface grammar and the second grammar being arranged to specify grammar rules according to the interface defined by

the interface grammar, and that a speech recognition grammar instructions providing means is arranged to provide instructions for causing the second grammar to be combined with the first grammar based on the interface grammar.

Dragosh et al. relates to a system and method for providing remote automatic speech recognition services via a packet network. Even if that document be deemed to teach that for which it is cited in the Office Action, that document is not seen to remedy the deficiencies of *White et al.* and *Hunt et al.* discussed above with respect to Claim 1.

Since none of the cited documents, whether taken singly or in combination (even assuming, for the sake of argument, that such combination were permissible), contains all of the elements of independent Claim 1, that claim is believed allowable over the cited art. Since independent Claims 11, 13, 14, 27, 29-31, 38 and 39 recite features similar or identical to those recited in Claim 1, those claims are believed allowable for at least the same reasons.

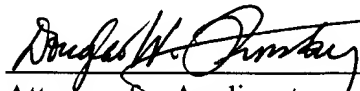
A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Attorney for Applicant
Douglas W. Pinsky
Registration No. 46,994

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
DWP/tmc

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